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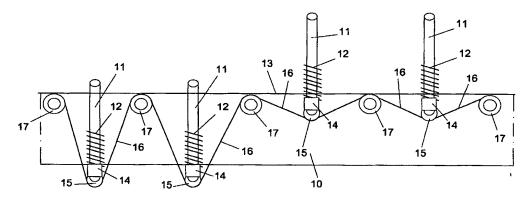
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(54) Title: BED SURFACE WITH IMPROVED STRUCTURE



(57) Abstract: A bed plane with improved structure, comprising a plurality of slats, arranged transversally to the frame (10) of the bed and connected to it through slat- holders, includes a series of stems or pistons (11), each connected with one or more of the aforementioned slats and associated with a respective spring (12) for vertical sliding; each piston carries a pulley or sliding guide (15) for the transmission of motion, which occurs thanks to flexible members (16), such as cords, belts, chains and cables, fixed to the frame (10) of the bed plane. The pistons (11), connected to the slats, react to the pressures exerted by the body lying down on the bed plane, compensating for the sinking created by the heaviest parts of the body, i.e. those parts between the shoulders and the pelvis, with an upward thrust, supporting the lighter parts, in other words the back and kidneys.

INTERNATIONAL SEARCH REPORT



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A. CLASSIF	CATION OF	SUBJECT	MATTER
TPC 7	A47C23	3/06	

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC $\frac{7}{2}$ A47C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

	Citation of document, with indication, where appropriate, of	the relevant passages	Relevant to claim No.
	WO 85/02987 A (HAAPASALO PAUL	I MIKAEL)	1-7
•	18 July 1985 (1985-07-18)	- 1.2.1.1.2.)	- '
	abstract		
	page 4, line 1 - page 8, line	10	
	figures 1-3		•
Y			8
X	EP 0 749 712 A (FEHER LASZLO	FERENC :	1,2,4,5,
	FEHER ROGER (CH))	,,	7
	27 December 1996 (1996-12-27)		
	column 3, line 26 - column 4,	line 59;	
	figures 2,3		
Υ	CH 663 339 A (PETER FEHLMANN)		8
•	15 December 1987 (1987-12-15)		_
	page 2, line 60 - line 62; fi	gure 1	
		,	
		-/	
X Fur	ther documents are listed in the continuation of box C.	X Patent family members are listed i	n annex.
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	ategories of cited documents:	"T" later document published after the inte	rnational filing date
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INTERNATIONAL SEARCH REPORT



International Application No
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		T/EP2004/00/628
C.(Continua	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	AT 400 662 B (BURIAN BERTRAM) 26 February 1996 (1996-02-26) abstract; figures	1-8
A	DE 38 27 476 A (HCM AG) 22 February 1990 (1990-02-22) abstract; figures	1-8
		·

INTERNATIONAL SEARCH REPORT

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Information on patent family members

International Application No /EP2004/007628

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 8502987	A	18-07-1985	FI	840024 A	06-07-1985
		-	DΕ	3590011 T	23-01-1986
			EP	0167609 A1	15-01-1986
			FΙ	853093 A ,	
			MO	8502987 A1	18-07-1985
			NO	853483 A	04-09-1985
			SE	444758 B	12-05-1986
			SE	8504107 A	04-09-1985
			SU	1438598 A3	15-11-1988
EP 0749712	Α	27-12-1996	DE	19522309 A1	02-01-1997
21 07 157 22			ΑT	182059 T	15-07-1999
			DK	749712 T3	29-11-1999
			EP	0749712 A1	27-12-1996
CH 663339	Α	15-12-1987	СН	663339 A5	15-12-1987
AT 400662	В	26-02-1996	AT	25491 A	15-07-1995
DE 3827476	Α	22-02-1990	DE	3844622 A1	01-03-1990
טב טטבוידוט	,,		DĒ	3844624 A1	01-03-1990
			DE	3827476 A1	22-02-1990
			ΕP	0354271 A2	14-02-1990
			US	5058224 A	22-10-1991